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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,979	03/07/2001	Hui Su	ARC920000134US1	5853
28342	7590	10/04/2004	EXAMINER	
SAMUEL A. KASSATLY LAW OFFICE 20690 VIEW OAKS WAY SAN JOSE, CA 95120			HAN, QI	
			ART UNIT	PAPER NUMBER
			2654	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/801,979

Applicant(s)

SU ET AL.

Examiner

Qi Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/07/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Information Disclosure Statement*

1. The references listed in the Information Disclosure Statement submitted on 03/17/2001 have been considered by the examiner (see attached PTO-1449).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 and 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forest et al. (US 5,999,895) hereinafter referenced as Forest in view of Lemelson et al. (US 6,421,064) hereinafter referenced as Lemelson, and further in view of van Cruyningen (US 5,805,167).

As per **claim 13**, Forest discloses the apparatus and method relating to data entry and menu selection for ideographic language (logographic based language) (Abstract), comprising:

a gaze tracking apparatus (column 13, lines 30-52, 'the conventional eye gaze system (interpreted as a gaze tracking apparatus)');

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a display for visually displaying one or more candidate characters of the logographic based language, and including: an input tracking bar that displays inputted characters (Figs. 64-65 and column 67, lines 2-37, 'display of a general purpose computer system', 'ideographic language', 'visible subregion' and 'selectable region' and 'menu options' (tracking bar), and blocks 3605 and 3609 shows the candidate characters to be selected);

a panel that displays the one or more candidate characters and that allows a pre-selection of the one or more candidate characters until a target character is identified (Figs. 64 and 65, blocks 3684, 2605 and 3609, provides multiple option menus (panels) and/or selectable regions/subregions (also interpreted as panels) on the screen for candidate characters; column 9, lines 35-40, 'conventional menu-driven data entry', 'the system then provides feedback... by highlighting the indicated selection');

a character output area that displays target characters that have been selected (Figs. 64-65, blocks 3684, 2605 and 3609 shows the output and selectable characters on the screen);

a user input device including a single confirmation input command, that enables the selection of the target character by activating the single confirmation input command (column 68, lines 19-31, 'selection is made in accord with the dwell (dwell time)... alternatively, selection may be intersection of a location indicated by the at least part of a cursor and a selectable region along, ... by such intersection accompanied (multiplexing) by depression (activating) of a space bar (single confirmation input command) on the keyboard, or other suitable means', so that it would be faster (accelerate) than the dwell).

Event though, Forest discloses an eye gaze system as stated above, Forest fails to specifically disclose the eye gaze system that "monitors an eye gaze of a user", the panel being

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“gaze-tracking panel”, and “visually recognizing the target character”. However, this feature is well known in the art as evidenced by Lemelson who discloses system and method for controlling automatic scrolling of information on a display screen (title), comprising tracking (monitoring) the position and movement of the user’s head and user’s eye so that scrolling function is performed based upon the screen gaze coordinates of the user’s eye relative to a certain activation area (gaze-tracking panel by visual recognition) on the screen (Abstract), and further teaches that the pop-up menu selection region may become highlighted and the pop-menu is selected by the user through dwell time or other selection protocol, such as speech command, or keyboard (column 17, line 65 to column 18, line 7). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Forest by specifically providing an eye gaze mechanism for tracking between user eye movement and an area of a computer screen, as taught by Lemelson, for the purpose of offering a desired display of information (Lemelson: column 4, lines 30-31).

Further, even though Forest and Lemelson both disclose using one or more means for inputting a screen related command or data, as stated above, Forest in view of Lemelson does not expressly disclose “multiplexing visual recognition and the single confirmation input command accelerates text entry”. However, this feature is well known in the art as evidenced by Cruyningen who discloses popup menus with directional gestures (title), comprising the eye-tracking mechanism in a heads-up display, and teaches that any input device or combination (multiplexing) of input devices that can generate a menu popup trigger event, can be used to direct cursor position, and can produce the confirm menu item selection event will work (column 15, lines 25-29). Therefore, it would have been obvious to one of ordinary skill in the art at time

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the invention was made to modify Forest in view of Lemelson by specifically providing combination of an eye gaze mechanism result and single input command from other input device for a selection confirmation, as taught by Cruyningen, for the purpose of offering a desired display of information (Cruyningen: column 4, lines 30-31).

As per **claim 14** (depending on claim 13), Forest in view Lemelson and Cruyningen further discloses including a scrolling indicator that enables scrolling action between multiple pages, (column 2, lines 9-10, 'gaze at scroll bar, page up or down activation region').

As per **claim 15** (depending on claim 13), as state above, Forest discloses the single confirmation input command includes a single manual confirmation key, (column 68, lines 19-31, 'depression of a space bar (a single manual confirmation key)').

As per **claim 16** (depending on claim 13), Forest further discloses the candidate characters include Chinese characters, (Figs. 64-65, blocks 3605 and 3609).

As per **claim 17** (depending on claim 13), as state above, Forest in view Lemelson and Cruyningen discloses that the gaze tracking apparatus visually highlights pre-selected candidate characters, (Forest: column 68, lines 19-31, 'depression of a space bar', Lemelson: column 17, lines 65-67, 'the pop-up menu selection region may become').

As per **claim 18** (depending on claim 15), Forest in view Lemelson and Cruyningen further discloses that the single confirmation key includes any one or more of: a space bar, a control key, an enter key, a dedicated key, a foot pedal, a mouse button, a pad tap, (Forest: column 68, lines 19-31, 'depression of a space bar'; Lemelson: column 18, lines 55-57, 'user selection can be ... key on a keyboard, mouse button, speech recognition, or any other selection protocol').

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As per **claim 19** (depending on claim 13), Forest in view Lemelson and Cruyningen further discloses that the single confirmation input command includes a voice command, (Lemelson: column 18, lines 55-57, 'user selection can be ... speech recognition', which necessarily provides voice command').

As per **claim 20** (depending on claim 13), Forest further discloses that the display displays candidate characters in order of frequency of usage, (column 12, lines 59-64, 'the system displays ... the most of frequently used words..., in order of frequency of use').

As per **claim 1**, it recites a method. The rejection is based on the same reason as described for claim 13, because the claim recites same or similar limitation(s) as claim 13.

As per **claims 2-7** (depending on claim 1), the rejection is based on the same reason as described for claims 15-20 respectively, because the claims recite same or similar limitation(s) as claims 15-20 respectively.

As per **claim 9** (depending on claim 3), Forest further discloses displaying the candidate characters in a single row, (Fig 65, see last row from bottom).

As per **claim 10** (depending on claim 3), Forest further discloses displaying the candidate characters in a staggered arrangement, (Fig 65, see right most box of the last row from bottom).

As per **claim 11**, it recites a method. The rejection is based on the same reason as described for claim 13, because the claim recites same or similar limitation(s) as claim 13.

As per **claim 12**(depending on claim 11), the rejection is based on the same reason as described for claim 15, because the claim recites same or similar limitation(s) as claim 15.

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As per **claim 21**, it recites a computer program product. The rejection is based on the same reason as described for claim 13, because the claim recites same or similar limitation(s) as claim 13.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forest in view Lemelson and Cruyningen as applied to claim 13 above, and further in view of well known prior art (MPEP 2144.03).

As per **claim 8** (depending on claim 7), even Forest discloses that the system displays the most of frequently used words in order of frequency of use (column 12, lines 59-64), Forest in view Lemelson and Cruyningen does not expressly discloses "displaying a most frequently used candidate character in a pre-selected position". However, an official notice is taken that the feature of displaying a most frequently used item in a pre-selected ~~position~~<sup>position dls</sup> is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify in view Lemelson and Cruyningen by specifically providing displaying a most frequently uses item in a pre-selected ~~position~~<sup>position dls</sup>, for the purpose of easing the data management on a screen.

4. Claims 22-24-5, 8-13, 16-20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forest in view of Lemelson.

As per **claim 22**, Forest discloses the apparatus and method relating to data entry and menu selection for ideographic language (logographic based language) (Abstract), comprising:



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graphically presenting multiple candidates of characters on a computer screen according to a user's input stream (Figs. 64-65 and column 67, lines 2-45, 'display of a general purpose computer system', 'enter a phonetic unit and intonation according to the Pin Yin coding (user's input stream)method for the Chinese language', and blocks 3605 and 3609 shows the candidate characters);

tracking the user's eye gaze, (column 13, lines 30-52, 'the conventional eye gaze system', 'observes (tracking) the eyes of the speech impaired individual (user)');

monitoring a single confirmation signal (column 68, lines 19-31, 'selection is made in accord with the dwell (dwell time)...alternatively, selection may be intersection of a location indicated by the at least part of a cursor and a selectable region along, ... by such intersection accompanied (multiplexing) by depression (activating) of a space bar (single confirmation input command) on the keyboard, where monitoring is interpreted as computer system monitoring);

selecting a target from the multiple candidates, (Figs. 64-65 and column 67, lines 2-37, 'selectable region' and 'menu options', and blocks 3605 and 3609 shows the candidate characters to be selected);

Event though, Forest discloses an eye gaze system as stated above, Forest fails to specifically disclose the step of selecting (see above) "according to the user's eye-gaze location in a time window within which the confirmation signal is activated". However, this feature is well known in the art as evidenced by Lemelson who discloses system and method for controlling automatic scrolling of information on a display screen (title), comprising tracking the position and movement of the user's head and user's eye (eye-gaze location) so that scrolling function is performed based upon the screen gaze coordinates of the user's eye relative to a

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certain activation area on the screen (Abstract), and further teaches that the pop-up menu selection region may become highlighted and the pop-menu is selected by the user through dwell time (interpreted as a time window within which the confirmation signal is activated) or other selection protocol, such as speech command, or keyboard (column 17, line 65 to column 18, line 7). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Forest by specifically providing an eye gaze mechanism for selecting a target through dwell time, as taught by Lemelson, for the purpose of offering a desired display of information (Lemelson: column 4, lines 30-31).

As per **claim 23** (depending on claim 22), as stated above, Forest discloses the user's input stream are Chinese Pinyin characters (column 67, lines 2-45).

As per **claim 24** (depending on claim 22), as stated above, Forest discloses the single confirmation signal is activated by pressing a single predefined key, (column 68, lines 19-31, 'depression (activating) of a space bar (single predefined key) on the keyboard').

### ***Conclusion***

5. Any response to this action should be mailed to:  
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450  
**or faxed to:**  
(703) 872-9306, (for formal communications intended for entry)  
**Or:**  
(703) 872-9306, (for informal or draft communications, and please label  
"PROPOSED" or "DRAFT")

Patent Correspondence delivered by hand or delivery services, other than the USPS, should be addressed as follows and brought to U.S. Patent and Trademark Office, 220 20th Street S., Customer Window, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA, 22202

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (703) 305-5631. The

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examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-6954.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

QH/qh  
September 27, 2004

*Donald L. Storm*  
PATENT EXAMINER  
AU 2654